



**Directorate of
Intelligence**

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Nicaragua: Map Coverage Guide

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A Reference Aid

DIA review
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This publication was prepared by [redacted] Map
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Reference Section, MSD, on [redacted]

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Preface

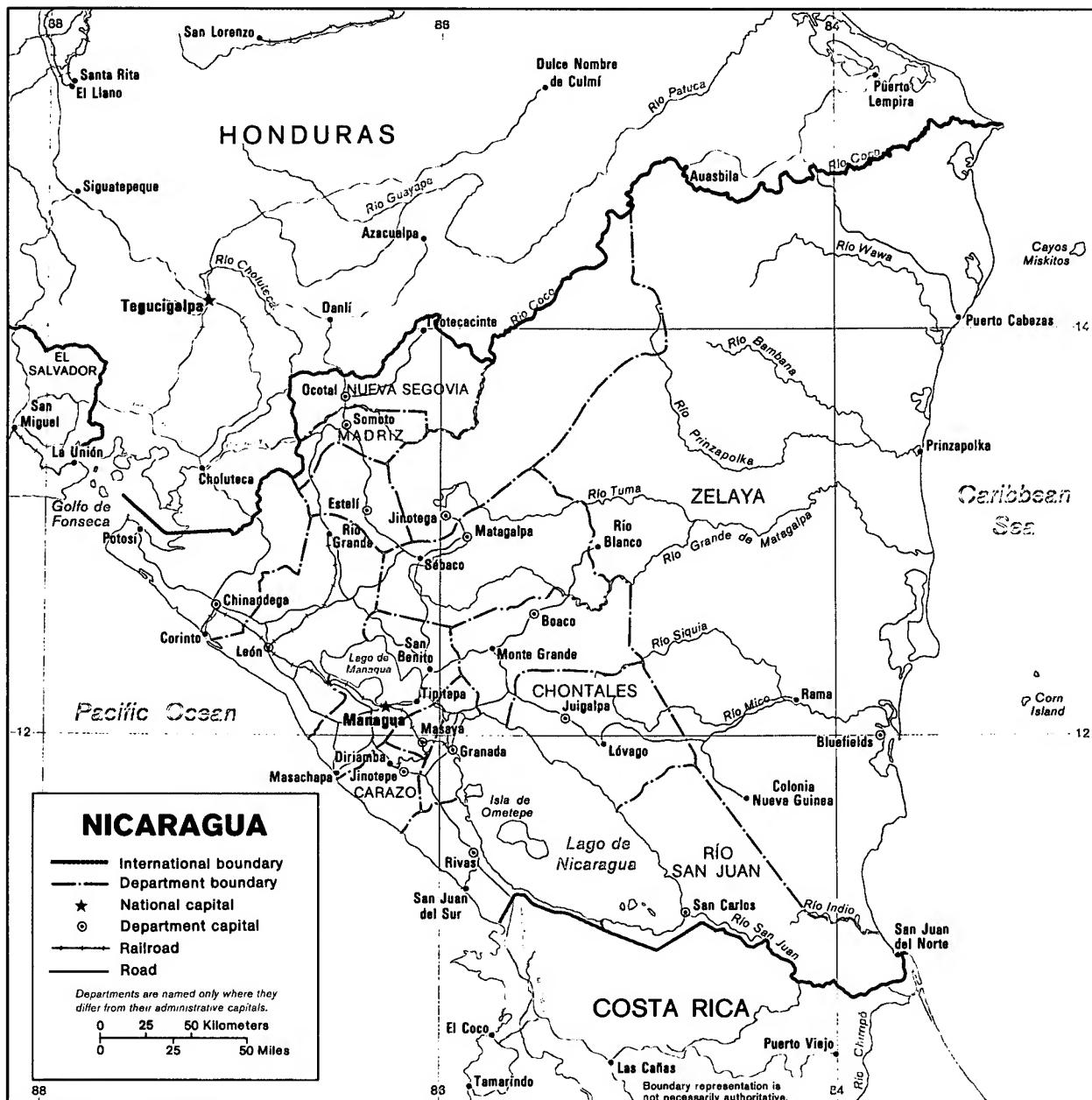
*Information available
as of 20 January 1985
was used in this publication.*

This guide describes and evaluates the best and most current maps of Nicaragua held in the OCR Map Services Division (MSD). In addition, it includes a few maps covering Central America as a whole. Many maps produced in the country were published by the Nicaraguan National Geographic Institute, the official government mapping agency; and others were issued by various ministries and departments. Many of the remaining maps described were published by the US Defense Mapping Agency Hydrographic/Topographic Center (DMAHTC) or DMA Aerospace Center (DMAAC). Most maps may be borrowed by requesters in the Washington area. When ordering, requesters should identify maps by accession number (e.g., 123456). The majority of the DMAHTC- and DMAAC-produced maps can be requisitioned and retained for official purposes. DMA maps being ordered should be identified by series number (e.g., 1501 or L7011).

Field components of the Department of Defense interested in obtaining copies of maps should forward requests through DMAHTC, Attn: SDSII, Washington, D.C. 20315. Non-DoD requesters may direct inquiries to OCR/MSD by telephone (703/351-6563) or by mail: Central Intelligence Agency, Washington, D.C. 20505, Attention: OCR/Map Services Division. CIA components that have access to the VM/AIM programs on their Delta Data terminals may order maps and geographical publications on line. After signing on the VM1, VM2, or VM3 and accessing AIM, enter CREATE OCRSERV. Once the menu appears on the screen, place an "X" next to "Loan of Maps and Geographical Publications." Fill in the form that appears on the screen and enter "SEND." Direct any questions to MSD on x6563

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Atlases

A dated but comprehensive atlas titled *Nicaragua: National Inventory of Physical Resources* (256792) was published by the US Agency for International Development (AID) in 1966. This atlas contains 36 plates on physical subjects such as geology, soils, mineral and water resources, climate, and vegetation and on cultural subjects including population, industry, health, education, and communications. Several of the maps in this atlas are cited in the sections on thematic maps that follow.

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The *Atlas of the Struggle for National Liberation* (276190) is a 1980 publication of the National Geographic Institute (IGN), which contains maps showing the activities of the Sandinista Front for National Liberation (FSLN) and the National Guard (GN). The seven fronts of the insurrection are shown on separate maps, which indicate the movement of forces, lines of retreat, points of combat, FSLN camps and GN quarters.

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Guidebooks

Two regional guidebooks, each with a section devoted to Nicaragua, provide information on the land, history, and people of the country. The guidebooks also include information on exchange rates, transportation, hotels, restaurants, and entertainment. The latest is *The 1985 South American Handbook*, 61st edition (297988), published by Trade and Travel Publications, Ltd., Bath, England. This guidebook devotes 24 pages to Nicaragua, and *Fodor's Central America* (295716), published in 1982, contains 25 pages. A dated but more detailed guidebook titled *Welcome to Nicaragua: Land of Lakes, Volcanoes, and Sun* (226768), was published in 1971 by the National Tourist Bureau of Nicaragua.

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Other Publications

The *Integrated Operational Support Study: Central America* (DDB-2070-30-84) (294546) was published by the Defense Intelligence Agency (DIA) in March 1984. This study has an 85-page section on Nicaragua

and contains many maps, graphs, and aerial photographs, as well as textual and statistical data. Its purpose is to provide a military intelligence analysis of the transportation network, lines of communication, and geographic features of each country in Central America. Some of the more significant maps are mentioned elsewhere in this guide under appropriate headings.

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Briefing and General Reference Maps

Several CIA-produced maps of Nicaragua are suitable for briefing or general reference purposes. A map of Central America and the Caribbean (800059) at the scale of 1:12,500,000 (11" x 13") shows Nicaragua's location in relation to Cuba. Two versions of a map of Central America present the country in a more detailed regional setting. These maps were issued in 1982 at the scale of 1:5,000,000 (37" x 41") and show major cities, first-order administrative divisions, and the regional transportation network. One shows terrain by shaded relief (504570), and the other is a base version, without shaded relief (504569). Two maps (504012 and 504013) published in 1979 at the scale of 1:1,500,000 (16" x 18") show national and first-order administrative boundaries, the national and departmental capitals, surfaced and unsurfaced roads, airfields, principal ports, and the 200-meter bathymetric contour. Map 504012 also includes shaded relief and spot elevations.

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Two page-size maps produced by CIA in 1980 at the scale of 1:3,500,000 (504507—base and 504508—shaded relief) show national and departmental boundaries and capitals, major roads, and railroads. A larger scale general reference map was published in the late 1960s (202132) by the IGN at the scale of 1:500,000 (39" x 44").

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Topographic Maps

Coverage of Nicaragua is almost complete at the scale of 1:50,000 in approximately 300 sheets in Series E751 produced by both DMAHTC (135261) and the IGN (112164). Some border coverage is provided by sheets from Series E763 on Costa Rica (112165) and Series E752 on Honduras (188946). Only one sheet necessary for total coverage remains unpublished. The area not covered is along the Honduran border northeast of the town of Tobasco. Both the DMAHTC and IGN sheets provide the same information: political boundaries, roads, railroads, vegetation, and hydrographic and cultural features. The maps have contour intervals of 20 meters, with 10-meter supplementary contours, and also include spot elevations. The sheets range in date from the mid-1950s to 1984, with sheets in the DMAHTC series generally being more current.

the scale of 1:250,000. These maps are similar to the JOG-G Series except that elevation figures are in feet instead of meters on the JOG-A charts.

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Medium-scale topographic coverage of Nicaragua is available at the scale of 1:250,000 in 14 sheets. Coverage consists of 13 sheets from DMAHTC-produced Joint Operations Graphic (JOG)-Ground Series 1501-G and one sheet from the older DMAHTC Series E503 (193019). The maps have production dates ranging from 1969 to 1981 and depict political boundaries, detailed transportation routes and hydrographic and cultural features; they have contour intervals of 50 meters, with 25-meter supplementary contours.

Agriculture and Land Use. Few current or detailed maps are available that show agricultural patterns in Nicaragua. The best map on the subject is the plate on Central America in the *World Atlas of Agriculture* (255291), published in 1969 by de Agostini Geographic Institute, Novara, Italy. This map shows areas of important crops, as well as areas of forest, grassland, rough grazing land, and land unsuited for agriculture. Volume III of this atlas contains small maps of Nicaragua showing areas of coffee, cotton, sugar cane, and maize production for 1963 and a map of cattle distribution.

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Aeronautical Charts

Complete aeronautical chart coverage of Nicaragua is provided at the scales of 1:500,000 and 1:1,000,000 by two DMAAC Tactical Pilotage Charts (TPC) and one Operational Navigation Chart (ONC), respectively. TPC charts K-25B and K-25C, published in 1983, cover Nicaragua in its entirety. These charts indicate relief by a combination of 500-foot contours, color tints, and terrain shading. In addition to aeronautical information, the charts show roads, railroads, and power transmission lines. ONC chart K-25, published in 1983, provides complete coverage of El Salvador, Honduras, Nicaragua, and Costa Rica, as well as partial coverage of Guatemala. This chart has a contour interval of 1,000 feet. Ten JOG-Air Series 1501-A charts have been published on Nicaragua at

The most recent information on agricultural production can be found on a set of three maps published by the UN Development Program in 1969 at the scale of 1:2,000,000 (233920). These maps provide departmental production totals for cotton, coffee, tobacco, sugar, bananas, sesame, and rice for 1966.

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A map titled *Land Use 1970* (243175) is the best available for Nicaragua on this subject. Published by the University of Hamburg in 1973, this map covers all of Central America at the scale of 1:2,000,000. It identifies plantations of permanent, semipermanent, and annual cultivation; land used for cattle grazing and mixed agriculture; and natural vegetation zones. Another map showing potential land use in Nicaragua (260484) was published for Nicaragua's Ministry of Development by the US Bureau of Reclamation in

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1976. It is a small map at the scale of 1:2,000,000 but is quite detailed and indicates 20 categories of potential land use. [redacted]

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Climate. An excellent source of maps on the climate of Nicaragua is the *Climatological and Hydrologic Atlas of the Central American Isthmus* (256206), which was published in 1976 by the Pan American Institute of Geography and History. Mean annual temperature and precipitation are shown on two separate maps, and two others show climatic classification and evapotranspiration potential. All four maps are at the scale of 1:2,000,000. [redacted]

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Health. Plate 25 of the 1966 AID resource atlas (256792) mentioned on page 1 shows the number and type of health care facilities in several Nicaraguan cities. [redacted]

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Hydrography. DMAHTC has published 13 hydrographic charts at various scales covering the coastal waters of Nicaragua. Detailed hydrographic charts are available for the harbors of Puerto Cabezas (28104), Monkey Point (28063), Bluefields (28082), San Juan del Norte (28062), Corinto (21525), Brito Roadstead (21541A), and San Juan del Sur (21541B). Other charts include the Gulf of Fonseca (21521), the entrance to Laguna de Perlas (28084), three medium-scale charts of the Caribbean Coast, and two small-scale charts covering both coasts. The DMAHTC *Sailing Directions* provide additional and more detailed hydrographic and coastal geographic information than the hydrographic charts. [redacted]

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Several Soviet-produced hydrographic charts of Nicaraguan coastal waters (162999) have also been recently acquired. They are dated from 1972 to 1983 and cover both coasts of the country at medium scales. More detailed coverage is available for the ports of Bluefields and Puerto Cabezas [redacted]

Operational Support Study mentioned on page 1 contains a map (295463) showing cross-country movement conditions for military vehicles. CIA also published three maps of Nicaragua in 1962 showing various aspects of military geography as part of the now defunct National Intelligence Survey program. The maps are at the scale of 1:1,000,000 and indicate the degree of suitability for the construction of air-fields (20968), roads (20969), and underground installations (20970). [redacted]

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Minerals and Geology. Nicaragua's mineral resources are shown in detail on Plate 11 of the AID atlas cited on page 1. The locations of 14 different minerals are indicated, and the accompanying text gives information on the geology, size of reserves, production status, and accessibility of each. The National Geologic Service of Nicaragua produced a map in 1978 at the scale of 1:1,000,000 that shows concession boundaries and names concession holders for active mining areas and those under exploration (264898). [redacted]

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A detailed geologic map (231105) of Nicaragua at the scale of 1:1,000,000 was published in 1973 by the IGN. The map is color coded to show rock types and also indicates fault lines, fracture lines, and volcanic craters. [redacted]

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Oil and Gas. The most current map of oil and gas exploration and development in Nicaragua is a 1:1,000,000 scale map (275963) produced in July 1984 by Petroconsultants S.A. of Geneva, Switzerland. It provides a synopsis of all activity, including seismic and drilling data, for the first half of 1984. Also [redacted]

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Military. An unclassified map enclosure to a 1983 intelligence report delineates the seven military regions of Nicaragua (291036), and the DIA *Integrated*

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shown on the map is the location of all wells, the depth and current production status of each, and the name of the company involved. [redacted]

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Population. The only available maps of Nicaragua that deal with population are based on 1963 census data. The AID resource atlas (256792) contains a map of population density that includes the density of larger cities. It is accompanied by supplementary textual information. The distribution of population is best shown on a map published by DGEC in 1964 at the scale of 1:1,000,000 (157355). The smallest units depicted on the map are villages with at least 100 inhabitants. [redacted]

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Power. The most detailed map of Nicaragua's electrical power system (264469) was published at the scale of 1:500,000 by the National Enterprise for Light and Power and is titled *System of Distribution*. The map was issued in 1974 but has been updated to 1978 with hand annotations. Information shown on the map includes transmission lines and substations and the locations of thermal, hydroelectric, and diesel power plants. [redacted]

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Roads and Railroads. The best road map of Nicaragua (286095) was published by the IGN in 1982 at the scale of 1:1,000,000. It defines four categories of roads and also indicates those under construction. Railroads and departmental boundaries are also shown, and a mileage chart appears as an inset. [redacted]

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Soils. Two plates from the AID resources atlas depict the pattern of soils in Nicaragua. Plate five shows 13 categories of soils as they relate to agricultural use, and plate 13 shows seven categories of soils relative to engineering applications. [redacted]

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Telecommunications. [redacted]

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Vegetation. The best available map showing vegetation patterns in Nicaragua is found in the 1966 AID resources atlas. The map indicates those parts of the country dominated by trees, grass, or cultivated vegetation, and each category is subdivided to show more detail. [redacted]

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Water Resources. A set of two maps (295462) at the scale of 1:1,500,000 taken from the 1984 DIA *Integrated Operational Support Study* provides an overall survey of Nicaragua's water resources. The maps indicate the quantities of fresh ground and surface water available and show the locations of areas of brackish or saline water. [redacted]

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City Plans

Plans of Nicaraguan cities have been produced by several publishers, including the IGN, DMA, and DIA. Maps of only the most important cities in Nicaragua are cited below. Plans of varying quality are available for numerous other small towns throughout the country. [redacted]

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Managua. The best available city plan of Managua is a DMA map in Series E956 that was compiled in 1979 at the scale of 1:15,000 (297825). The Universal Transverse Mercator (UTM) grid system is overprinted on this map, which also has an index to streets; a listing of important features such as government buildings, industrial buildings, embassies, and utilities; and contours at five-meter intervals. Another good plan of Managua was published by the IGN in 1981 at the scale of 1:25,000 (279924). It is a two-sheet map with contours at 10-meter intervals on its reverse. It names and locates major buildings and points of interest; however, the location of the US Embassy is incorrect. [redacted]

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The road map of Nicaragua published in 1982 by the IGN (286095) that was mentioned above also has a detailed tourist map of Managua on its reverse. It

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names and locates major buildings and points of interest. []

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Bluefields. In 1976 the IGN published a two-sheet photomap (253755) of Bluefields at the scale of 1:4,000. Part of Series E051, it gives the names of principal and secondary streets and has an index of important buildings. It also has a UTM grid overprint. []

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Chinandega. A photomap of the town of Chinandega was published by the IGN in 1970 at the scale of 1:5,000 (211860). It is part of Series E051 and is similar in format and presentation to the photomap of Bluefields mentioned above. []

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Other Cities. IGN has also published plans of several cities that do not employ a photomap base. These maps are similar to the photomaps mentioned above in that they provide street names, locate and identify important buildings and installations, and have UTM grid overprints. They also have detailed contour lines, generally at two- or five-meter intervals, which are not found on the photomaps. Plans of this type have been published for the towns listed below.

Map	Number	Scale	Date	
Corinto	205321	1:5,000	1968	
Granada	190925	1:5,000	1967	
León	211609	1:10,000	1970	
Masaya	170622	1:5,000	1966	
Matagalpa	261909	1:8,000	1977	
Puerto Cabezas	268765	1:7,500	1978	[]

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